

REMARKS

The Applicant appreciates the Examiner's thorough review of this application. Reconsideration and re-examination are respectfully requested in view of the instant amendments and remarks.

With regard to paragraph 1 of the Office Action it is agreed that the priority application in the United Kingdom was filed on 14th June 1999. The USA patent application was filed on 13th June 2000, and so the USA patent application was not filed more than twelve months after the priority date. It is thus believed that the priority date can properly be claimed.

With regard to paragraphs 2 – 6 of the Office Action, formal drawings are filed herewith. These formal drawings are believed to meet the objections set out in the Office Action.

With regard to paragraphs 7 – 13 of the Office Action, claims 1 – 12 have been deleted and they are proposed to be replaced by new claims 13 – 24. The new claims 13 – 24 have been directed to a method of producing the display apparatus. The wording objected to in paragraphs 9 and 10 of the Office Action has been corrected. The paragraph starting at page 12 line 21 has been amended to agree with claim 1. A copy is enclosed of original pages 12 and 13 showing in longhand the amendments for the above new paragraph starting at page 12 line 21.

The Examiner relied upon three prior patents, namely Yoshikawa et al (USA Patent No. 5, 833, 340), Blackham (USA Patent No. 6, 042,238) and Hegg (USA Patent No. 5, 748, 264). None of these prior patents is directed the step of deliberately varying the screen in shape and/or position in order to varying the image distance within the total field-of-view of the display apparatus.

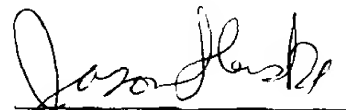
With regard to paragraph 14 of the Office Action, the prior art made of record and not relied upon has been carefully considered. This prior art is not believed to affect the allowability of the presently proposed new claims, nor the above submissions.

Each of the Examiner's rejections has been addressed or traversed.

Accordingly, it is respectfully submitted that this application is in condition for allowance. Early and favourable action is respectfully requested.

If for any reason this RESPONSE is found to be INCOMPLETE, or if at any time it appears that a TELEPHONE CONFERENCE with Counsel would help advance prosecution, please telephone the undersigned or one of his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Jason D. Shanske", written over a horizontal line.

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any ground vehicles with a low cost motion system. Further, a head mounted display allows the driver to look in any direction without limitation from the display device. Such a combination of features is difficult if not impossible to achieve with projected out-of-the-window displays. However, there are two fundamental reasons why head mounted display apparatus has not been widely accepted for ground vehicle driving simulators. The first reason is that in the real world, drivers do not need to wear headgear. The second reason is that the visual performance of head mounted display apparatus to date has not been adequate, especially with regard to transport delay, compensation for head movement, and field-of-view. Furthermore, optical limitations (for example resulting in eye strain or sickness) and discomfort (for example weight, centre of gravity and hygiene) are significant problems.

It is an aim of the present invention to provide display apparatus which reduces the above mentioned problems.

Accordingly, in ^{one} ~~one non-limiting~~ embodiment of the present invention, there is provided ^{a method of producing} display apparatus, ^{which method} comprising ^{as providing a curved} ~~a front~~ projection screen, ^{providing} at least one projector ^(which is) for providing a display on the screen, ^{and which is} positioned ^{ing the said at least one projector} outside an enclosed display volume, ^{the screen} ~~being varied~~ in shape

providing a curved collimating mirror via which the image is viewed such that the image distance is greater than the radius of the mirror, and varying

in order
and/or position to vary the image distance within the
total field-of-view of the display apparatus. ~~(then viewed
via a curved collimating mirror.)~~

The display apparatus of the present invention may be for simulators such for example as flight simulators and ground vehicle driving simulators. The display apparatus may be used for other simulators if desired. The display apparatus may also be used in non-simulator applications so that the display apparatus may be for visualisation and virtual reality systems where similar display characteristics would be of benefit.

The display apparatus of the present invention may enable ground vehicle driving simulators to be produced with the following advantages.

1. Low cost.
2. Close image distance on the driver's side.
3. Longer image distance elsewhere.
4. Continuous image of high contrast and luminance.
5. Low maintenance.
6. Light weight.
7. Re-use of the design to eliminate one time costs in the simulator structures.
8. Flexibility to change simulator cabs.

The display apparatus of the present invention may be used to provide a highly integrated motion and display platform with well defined interfaces. This may